



U.S. Department
of Transportation
**Federal Aviation
Administration**

General Aviation Airworthiness Alerts

AC No. 43-16



**ALERT NO. 220
NOVEMBER 1996**

**Improve Reliability-
Interchange Service
Experience**

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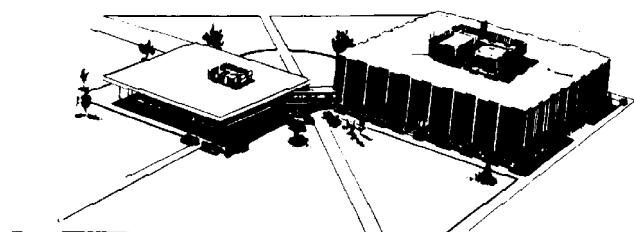
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**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20590**

GENERAL AVIATION AIRWORTHINESS ALERTS



FLIGHT STANDARDS SERVICE
Mike Monroney Aeronautical Center

The General Aviation Airworthiness Alerts provide a common communication channel through which the aviation community can economically interchange service experience and thereby cooperate in the improvement of aeronautical product durability, reliability, and safety. This publication is prepared from information submitted by those of you who operate and maintain civil aeronautical products. The contents include items that have been reported as significant, but which have not been evaluated fully by the time the material went to press. As additional facts such as cause and corrective action are identified, the data will be published in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported via Malfunction or Defect Reports. Your comments and suggestions for improvement are always welcome. Send to: FAA; ATTN: Maintenance Support Branch (AFS-640); P.O. Box 25082; Oklahoma City, OK 73125-5029.

AIRCRAFT

ALON

Alon **Cockpit Fuel Fumes**
Model A-2 **2810**

The pilot reported detecting a persistent and very strong fuel odor in the cockpit.

An investigation revealed the aluminum tubing used for the fuselage fuel tank drain line was in contact with the fresh air hose. The fuel line was both chafed and corroded, and the wall thickness had been penetrated.

This area should be checked anytime fuel fumes are detected and during scheduled inspections.

Part total time-2,785 hours.

BEECH

Beech **Landing Gear Failure**
Model C24R **3230**
Sierra

The pilot reported the left main landing gear extended without command during flight. The gear was cycled down and then up; however, the left main gear remained down. The gear was then cycled down, and a safe landing was made.

An investigation disclosed the left main landing gear actuator rod-end (P/N 131553F6617) had broken. It appeared the rod-end had been cracked prior to this occurrence. Evidence indicated the crack originated at the grease zert fitting. It is recommended these rod-ends be rigorously inspected during scheduled inspections and maintenance, especially on high-time aircraft.

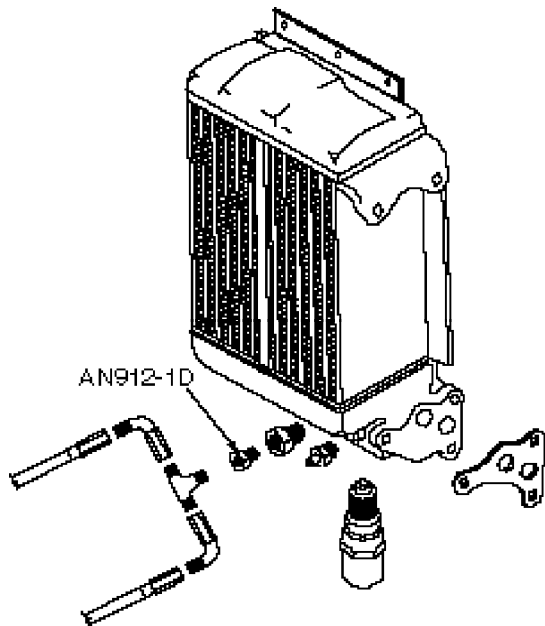
Part total time-4,844 hours.

Beech	Turbocharger Oil
Model A36	Leak
Bonanza	8120

After the aircraft returned from a flight, maintenance personnel discovered an excessive amount of engine oil on the lower side of the fuselage.

An investigation revealed that a fitting (P/N AN912-1D) on the turbocharger oil cooler was broken. This fitting is constructed of aluminum and reduces in size from .25 inch to .125 inch. (Refer to the following illustration.) This engine (IO-550-B-1F) had been fitted with a Supplemental Type Certificate (STC) SA5223NM, which installed a turbocharger normalized system. The broken fitting was installed as a part of the STC. The STC holder, Flightcraft, Inc., has revised their data to install a fitting made of steel. All operators who have this STC installed should have the system inspected for the presence of the aluminum fitting. If this aluminum fitting is found, contact the STC holder for replacement instructions.

Part total time not reported.



Beech	Engine Fuel
Model A36	Starvation
Bonanza	7310

During an engine power check prior to an intended flight, the engine failed.

An investigation disclosed the engine fuel supply had been interrupted. The fuel filter settling bowl was found loose, which allowed fuel leakage and the induction of additional air. This caused a mixture which was too lean and would not sustain engine operation. The safety wire used to secure the settling bowl was broken. The submitter speculated it had been twisted too tightly when it was installed. The submitter stated: "Experience with this installation has taught that when tightened to the maximum torque limit, the filter housing, used to support the settling bowl, sometimes cracks." This operator uses the minimum torque value of 25 inch-pounds.

Part total time-208 hours.

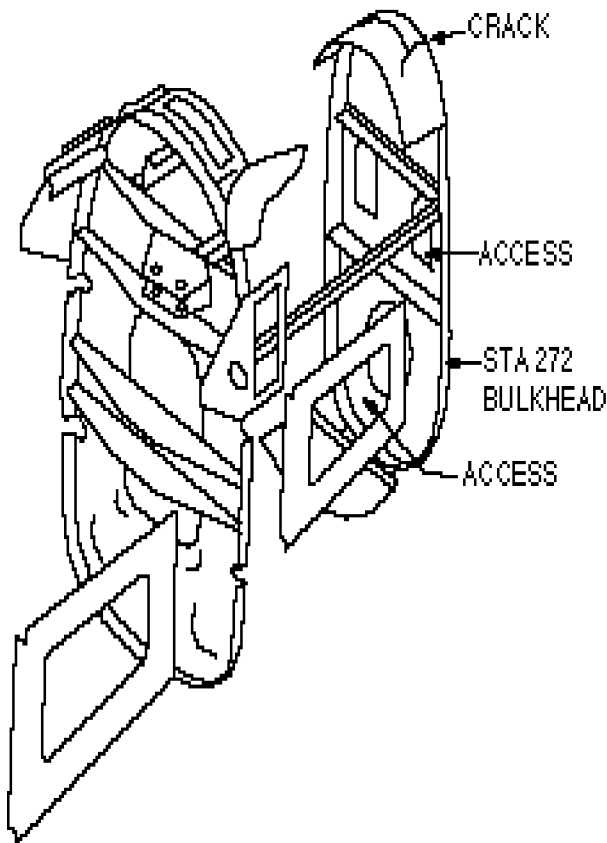
Beech	Bulkhead Structural
Model A36	Crack
Bonanza	5500

During a scheduled inspection, a crack was found in the empennage bulkhead structure.

The crack was located in a bulkhead doubler (P/N 002-440000-29) just forward of Fuselage Station 272. The crack originated in the radius cutout area of the doubler on the left side. (Refer to the following illustration.) The operator inspected the remainder of the fleet, and five similar defects were discovered.

The area where the crack was found is part of the reinforcement for the attachment point of the rear spar for the vertical stabilizer. The location of this defect makes it very difficult to properly inspect. A mirror and flashlight are required, and access to the area can be gained through the inspection panel on the left rear of the fuselage (with the tail cone removed). The submitter recommended frequent inspection of this area.

Part total time for all aircraft found defective ranged from 2,300 to 2,600 hours.



Beech **Nose Landing Gear**
Model 58P **Failure**
Baron **3230**

The pilot reported the nose landing gear unsafe light remained illuminated after the gear was retracted. The gear handle was then placed in the "down" position, and an uneventful emergency landing was made.

During an investigation, the nose landing gear retraction rod-end (P/N HMX5FG) was found broken. Evidence indicated there was a pre-existing crack in the neck of the rod-end bearing housing which resulted in a complete fracture. The submitter recommended these rod-ends be checked during scheduled inspections using appropriate nondestructive inspection (NDI) methods.

Part total time not reported.

Beech **Wing Rib Cracks**
Model B60 **5712**
Duke

During an annual inspection, the wing trailing edge ribs and attachment clips at Wing Stations 64, 74, and 89 were found cracked on both the left and right wings.

During removal of these ribs, it appeared they had been "stressed" (preloaded) during the previous installation in an attempt to obtain proper alignment. This area is difficult, but not impossible, to inspect with the wing flaps installed. The submitter stated most of the cracks were located at the notched-out area of the skin stiffener.

Part total time not reported.

Beech **Magneto Failure**
Model BE76 **7414**
Duchess

The pilot reported the right engine failed during an attempted takeoff.

During an inspection, the magneto (P/N 10-382555-14) was found separated from the engine. It was determined the attachment nuts had loosened and allowed the magneto to be expelled from the engine. The only torque value established for these nuts is taken from the standard hardware torque value chart. It was recommended the magneto attachment be checked at 50 hour intervals. Also, the magneto "hold down" brackets should be checked to ensure they are the "new" style.

Part time since last inspection-80 hours.

Beech **Propeller Vibration**
Model BE200 **6111**
King Air

The pilot reported experiencing a high frequency vibration with the engine power settings above 1,800 foot pounds of torque.

After an extensive investigation, it was determined that both propellers were going into "tip flutter" at these power settings. The propellers installed on this aircraft were

Hartzell, Model HC-B3TN-3. Over an extended period of time, this operator had many conversations with the manufacturer while attempting to find the cause of this defect. It was finally determined the propeller blade tips were too thin because they had been "reworked" several times. The propeller technical data does not have a standard for the minimum thickness of blade tips. If propeller vibrations develop, you should contact the manufacturer for a defect history.

Part time since overhaul-620 hours.

Beech	Engine Exhaust
Model 200	System Crack
King Air	7800

During a scheduled inspection, a crack was found on the right side of the right engine exhaust system.

The exhaust stack (P/N 101-95-0019-3) was cracked through approximately 80 percent of its circumference. The crack was located adjacent to the mounting flange. The cause of this crack was suspected to be vibration, metal fatigue, and rigidity of the mounting flange.

Part total time not reported.

Beech	Landing Gear
Model B300	Failure
King Air	3230

The pilot reported the landing gear failed to extend when the normal extension system was used. It was necessary to use the emergency system to lower the landing gear.

An investigation revealed the 60-amp circuit breaker opened and removed electrical power from the normal extension system. This circuit breaker is located in the wing and is not accessible by the flightcrew. The submitter stated this design could have catastrophic consequences if the circuit breaker opens during operation, while in adverse weather, or

with a low fuel supply. This report has been forwarded to the responsible FAA aircraft certification office for action.

Part total time-11 hours.

BOEING

Boeing	Rudder Horn
Model A75N1	Structural Failure
Stearman	5542

The pilot reported the rudder was not effective during flight.

An inspection of the system disclosed the rudder horn (P/N AG75-2001) had broken. The wall thickness of the rudder horn had been penetrated by corrosion. The submitter stated the available evidence indicated a crack had occurred prior to the formation of corrosion and the ultimate failure of the horn assembly. It was suggested that maintenance technicians closely examine this area during scheduled inspections for any sign of corrosion and for the general condition of this assembly.

Part total time not reported.

CESSNA

Cessna	Engine Running
Model 140	"Rough"
	7322

The pilot aborted takeoff because the engine was running "rough," and the aircraft was returned to maintenance.

An investigation revealed the Stromberg carburetor needle valve tip (P/N 39077) was swollen. The submitter speculated this defect was caused by using "100LL or autofuel."

Part total time not reported.

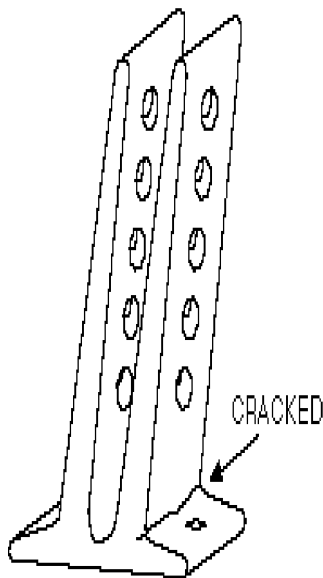
Cessna
Model C152
Aerobat

Empennage Fitting
Crack
5553

A crack in the vertical fin attachment was discovered while complying with Airworthiness Directive (AD) 80-11-04.

The crack was approximately .875 inch long and was located on the lower outboard side of the left vertical fin attachment fitting (P/N 0431009-3). (Refer to the following illustration.) When the fitting was removed, the cracked section of the fitting broke. The submitter did not offer a cause for this defect.

Part total time-4,511 hours.



Cessna
Model R172E
Skyhawk

Mixture Control
Failure
7602

The pilot reported that during cruise flight, an attempt to lean the mixture was made. After turning the vernier control knob

approximately three turns, a "push" was felt, and the control went to "idle cutoff." All attempts to regain engine power failed; however, a safe airport landing was made.

While investigating this defect, a "clicking" sound was heard when the vernier mixture control (P/N S1818-1) was cycled. The vernier mixture control was replaced with a new part, and the defective control was sent to Cessna for evaluation. If further information concerning that evaluation is made available, it will be published in a future edition of this publication. It was speculated the mixture control had failed internally. The submitter stated that any binding of an engine control should be immediately investigated and corrected.

Part total time not reported.

Cessna
Model 172G
Skyhawk

Main Landing Gear
"U-Bolt" Failure
3211

During a 100-hour inspection, the "U-bolt" used to secure the right main landing gear was found broken.

It appeared the "U-bolt" (P/N 0541153) had been previously cracked and ultimately failed. A crack indication was found on the outboard support (P/N 0541121-2) at the forward "U-bolt" hole, when the "U-bolt" was changed. The crack was confirmed by nondestructive testing. It was suspected the broken "U-bolt" caused a stress concentration at this point.

The submitter speculated the "U-bolt" crack was caused by an unreported hard landing. Even if reporting these occurrences causes a "red-faced condition," one should put one's ego aside, and bear the responsibility of having the proper inspections accomplished.

Part total time-4,500 hours.

Cessna	Propeller Spinner
Model 172Q	Bulkhead
Skyhawk	6113

During an annual inspection, it was necessary to replace the propeller spinner bulkhead.

The spinner bulkhead (P/N 0550321) is the same part number as that of other Cessna 172 Models. The Cessna 172Q Model uses bolts with a larger diameter to attach the propeller. The bolt holes in the spinner bulkhead are drilled for bolts with a smaller diameter. It is possible to force the larger bolt through the smaller holes; however, the bulkhead will be deformed. All maintenance personnel are urged to use caution when installing these spinner bulkheads.

Part total time not reported.

Cessna	Fuel Line/Control
Model 180H	Cable Chafing
Skywagon	2820/2710

During an annual inspection, an aileron cable was found chafing on an aluminum fuel line.

This defect was located at the left doorpost. Under the floor boards, the fuel lines were chafing where they passed through the bulkhead. The submitter recommended a rigorous check of these areas during scheduled inspections using a flashlight and mirror. The interior panels must be removed to properly inspect the doorpost area. It was suggested that rubber grommets or chafe seal be installed. Also, securing the fuel lines to ensure proper clearance and prevent their movement may alleviate this problem.

Part total time-2,975.

Cessna	Alternator Wire
Model R182	Harness Damage
Skylane RG	2450

This aircraft was being inspected due to an alternator problem, and during the inspection a damaged wire harness was discovered.

The wire harness had been secured to the engine oil return line (P/N 68759) on the

Number 1 cylinder using a "Tywrap." When the "Tywrap" was removed, the wire harness was found chafed through approximately 75 percent of the insulation. Using "Tywraps" to secure wiring directly to rigid aluminum or steel lines is a common practice; however, there should be some sort of chafe protection used with the installation.

Part total time not reported.

Cessna	Engine Induction
Model 182Q	Tube Wear
Skylane	7160

During an annual inspection, the engine intake balance tube was found severely chafed.

The balance tube was chafing on the bottom cowl shock mount (P/N 51115-29). If not corrected, this condition could result in an induction system leak which would degrade engine performance to a dangerous level. The submitter stated several like aircraft have been found with this condition and suggested all operators should have their aircraft inspected for this defect.

Part total time-1,281 hours.

Cessna	Main Landing Gear
Model 414A	Tire Damage
Chancellor	3244

During a scheduled inspection, both main landing gear tires were found damaged due to contacting the brake assembly backing plate.

The tires were Goodyear 6:50 by 10 8-ply tube type. After removal and replacement of the worn brake assembly parts, new tires of the same size and the same manufacturer were installed. The tires still made contact with the brake assembly backing plate. Two other 400 Series Cessna aircraft which had this type of tires installed were inspected and found in the same condition. Tires of the same size, but from a different manufacturer, were installed and had plenty of clearance from the brake assembly backing plate. The submitter speculated the Goodyear tires were not

manufactured in accordance with dimensional specifications. This problem has been referred to the responsible FAA aircraft certification office for a resolution.

Part total time—"0" hours.

Cessna	Main Landing Gear
Model 414A	Strut Failure
Chancellor	3213

After a routine flight and landing, ground personnel noticed the right main landing gear strut was fully extended.

The lower strut assembly upper bearing retainer was found dislodged from its retainer groove when the strut was disassembled. This allowed the strut to extend farther than normal, and caused the strut to be stuck at full extension. The submitter stated: "This is not a normal inspection item and can easily be passed over and not seen during preflight or annual inspections."

Part total time not reported.

FAIRCHILD

Fairchild	Fuel Starvation
Model SA26AT	2840

The following article was submitted by the FAA's Aircraft Certification Office (ASW-150), located in Fort Worth, Texas. This information resulted from an accident investigation and the findings of the National Transportation Safety Board (NTSB). (This information is published exactly as it was received.)

The conclusion of the NTSB investigation disclosed that fuel starvation, and failure of the pilot to follow proper emergency procedures, were the causal factors in this accident. The aircraft was being operated with known deficiencies in the fuel quantity measuring system. All operators are advised to review the fuel quantity system maintenance practices in the

manufacturer's maintenance manual and to inspect the fuel quantity calibration system and make all necessary repairs.

This problem may also affect other aircraft makes and models using a similar type fuel indicating system.

LAKE

Lake	Nose Landing Gear
Model LA4-200	Actuator Damage
Buccaneer	3230

During an annual inspection, the nose actuator was found bent, corroded, and cracked.

The submitter stated similar damage was found on six other like aircraft. During gear operation, it appears the actuator piston assembly (P/N 180029-005) receives a side load which is concentrated at the threaded end of the actuator rod. Also, the nose landing gear actuates at a fast rate which may cause a "bounce" when the travel limit is reached. All maintenance technicians and operators are cautioned to closely inspect this area at every opportunity.

Part total time-307 hours.

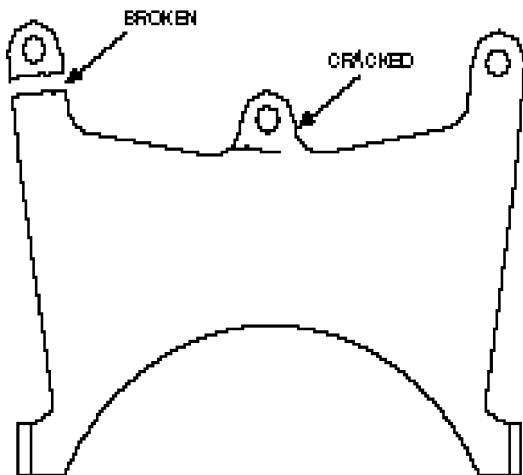
PIPER

Piper	Generator Support
Model PA 22-135	Bracket Failure
Tri-Pacer	5345

During an annual inspection, the technician discovered the generator was loose.

Further investigation revealed the generator support bracket (P/N 69113) had one broken ear and one cracked center ear. (Refer to the following illustration.)

Part total time-3,389 hours.



Piper
Model PA 28-150
Cherokee

Fuel Supply Hose
Deterioration
2820

During fuel tank maintenance, the flexible fuel supply line connecting the tank to the metal line was found severely deteriorated.

The hose was deteriorated to the point of being extremely brittle. The fuel tank was removed, and the hose broke into several pieces. Most likely this was an original equipment installation. The hose was marked with 1965 as the date of manufacture. All aircraft owners should follow the manufacturer's recommendations for changing flexible plumbing before a hazardous situation is created. These hoses have been the subject of many articles in aviation publications.

Part total time-3,500 hours.

Piper
Model PA 31-310
Navajo

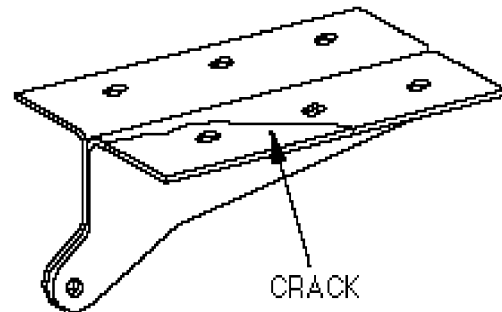
Elevator Trim Tab
Horn Crack
5552

During a scheduled inspection, the elevator trim tab horn assembly (P/N 43221-00) was found cracked.

The crack ran from the forward lower corner aft to just below the second rivet. (Refer to the following illustration.) Further investigation revealed the rivets, used to attach the horn

assembly to the forward side of the spar, were loose and working. There was also evidence of a poorly done previous repair.

Part total time not reported.



Piper
Model PA 32RT-300
Lance

Intermittent Magneto
Failure
7400

The pilot reported that sometimes the right magneto would "go dead" during an engine power check. This was an intermittent and persistent problem. The magneto had been removed for maintenance on two other occasions.

After extensive troubleshooting through the entire ignition system, the "P-lead" for the right magneto was found chafed where it passed through the firewall clamshell grommet. A bare spot was found that caused a short only at a certain engine vibration frequency. An inspection of the left magneto "P-lead" disclosed the same wear pattern; however, it was much less severe.

Part total time not reported.

Piper
Model PA 32R-301
Saratoga

Aileron Structural
Cracks
5751

During a scheduled inspection, the left aileron rib (P/N 86398-03) was found cracked.

The crack emanated from a hinge fitting nut plate. After removal of the aileron hinge

fitting (P/N 86392-02), another crack which was approximately 1.25 inches long was discovered. This crack ran along the bottom of the nut plate. Another crack, approximately 1 inch long, was found on the inboard aileron nose rib. This crack terminated at the lower bolt hole. An inspection of the right wing aileron resulted in similar findings. The submitter did not offer a cause for these defects. This area should be given special attention during inspections and maintenance.

Part total time-3,167 hours.

Piper	Electrical System
Model PA 34-200T	Failure
Seneca	2400

The pilot reported a complete loss of electrical power during flight.

An investigation revealed the master switch was "partially defective." The battery contact side of the switch worked normally; however, the left and right alternator contact side of the switch failed. This effectively disconnected the alternator from the electrical system and resulted in complete power loss after the aircraft battery power was exhausted. The submitter speculated the master switch failed due to high time and worn contacts. It was recommended that operators replace master switches which have been in service for a long period of time.

Part total time-3,183 hours.

Piper	Fuel Contamination
Model PA 38-112	2810
Tomahawk	

The pilot reported that during the aftertakeoff climb, the engine began to lose power and failed. A safe emergency landing was made. The engine regained power just as the aircraft touched down.

An investigation revealed evidence of water in the left fuel tank. The pilot stated that all tanks had been "sumped" during preflight inspection. During the preceding few days prior to this flight, the weather conditions had included very high humidity. The submitter

speculated this was the source of the water found in the tank. It was recommended the fuel sumps be sampled several times if the slightest contamination is detected. When the fuel sumps are being sampled, complacency can cause potentially dangerous contamination to be overlooked. Sampling the fuel sumps can become such a routine task that the fuel sample may be tossed out on the ramp with, at best, a cursory check for contamination.

Aircraft total time-3,063.

Piper	Propeller Deice
Model PA 42-1000	System Failure
Cheyenne	6112

The flightcrew reported observing a sudden shower of sparks from the left engine propeller. According to the ammeter, there was no unusual current draw. Before the crew could turn it off, the propeller deice system "shut itself down." A safe landing was made.

An inspection of the system revealed a propeller blade deice boot had shorted, resulting in a hole being burned into the propeller blade. The hole was approximately .25 inch deep and 1.5 inches long and was located on the leading edge approximately 9 inches from the blade root. The propeller was a Dowty-Rotol Model R339, and the blades were made of composite material. The submitter speculated the electrical short was caused by foreign object damage (FOD) which struck the deice boot.

Part time since overhaul-1,600 hours.

Piper	Nose Landing Gear
Model PA 44-180	Failure
Seminole	3230

The pilot reported that after several attempts to obtain a "down-and-locked" indication from the nose landing gear, the green light finally illuminated. An uneventful and normal landing was made.

Maintenance technicians discovered the aluminum casting for the nose gear trunnion assembly (P/N 67054-03) had broken.

The casting failed where the centering spring assembly attachment bracket (P/N 67114-00) was bolted to the nose gear trunnion. This condition allowed the centering spring to rotate, and the nose gear tire jammed in the wheel well. The submitter recommended this area be rigorously checked during scheduled inspections.

Part total time-5,031 hours.

Piper	Hydraulic Leak
Model PA 46-350P	3230
Malibu Mirage	

The mechanic was investigating the cause of landing gear problem, and discovered that the hydraulic reservoir was nearly empty.

The reservoir was filled, and a leak check revealed a leak. The leak was in the nose gear door sequence valve, and had leaked past the plunger. Also, several hydraulic lines on the main gear actuators and two of the lines attached to the main gear sequence valve were leaking. No reason was given for these defects. However, considering the short time in service, negligence seems a definite possibility.

Part total time-354 hours.

STINSON

Stinson	Inoperative Fuel
Model 108-2	Selector Valve
Voyager	2823

The pilot reported the fuel selector valve stuck between detents while attempting to change from the right to the left tank. The pilot and front-seat passenger used a great amount of effort to turn the valve, and the valve was rotated to the "left tank" position.

Disassembly of the valve (P/N 108-44745) revealed scoring and galling between the valve body and the rotating plug. "Fuel lube" was present on the internal valve parts. The submitter suspected this valve was not properly machined during the manufacturing process. Any hint of operating difficulty

associated with the fuel selector valve should be immediately and thoroughly investigated.

Part total time-22 hours.

WSK PZL MIELEC

WSK PZL Mielec	Engine Throttle
Model M-18	Control Failure
	7603

The pilot reported that engine throttle control was lost immediately after landing.

An investigation revealed the female forked terminal end (P/N AN486-4), used for throttle linkage and adjustment, was pulled free from the male terminal. The threads had "stripped," and the submitter speculated the male end of the terminal had not been turned into the female end far enough during the last adjustment. The female terminal end had a "go-no-go" hole, and the threads were pulled out of that hole to the end of the terminal. The submitter stated the moral of this report is: "Use the go-no-go hole to check for proper thread insertion after the final adjustment."

HELICOPTERS

AGUSTA

Agusta	Oil Cooler Drive
Model A109A	Shaft Excessive
Mark II	Movement
	6322

While performing a daily inspection, maintenance personnel noted excessive movement of the oil cooler drive located under the engine.

The bolt tying the forward output coupling to the aft coupling through the engine power takeoff (PTO) gearshaft sheared flush with the bottom of the retention nut. The cotter pin was still installed in the bolt end through the nut. The oil cooler shaft contained the aft adapter

in the gear box; therefore, it did not completely fail.

The submitter suggested that the bolt age and/or improper installation caused the bolt to fail.

Part total time-1,705 hours.

AMERICAN EUROCOPTER

American Eurocopter	Engine Air Inlet
Model BO-105S	Blocked
Twin Jet	7220

During cruise flight, the aircraft experienced a sudden right yaw, a rapid rise in turbine outlet temperature (TOT), and a torque reduction in the Number 1 engine. Reducing the power lever to idle arrested the rise in TOT, and an uneventful emergency landing was made.

It was discovered during an inspection that the Number 1 engine inlet was 25 to 50 percent blocked by an 11- by 3-inch piece of antichafe tape. The manufacturer-installed tape came loose from the transmission, by the inlet deflector shield housing, and was almost ingested into the compressor.

The submitter recommended closer inspections of the antichafe tape during daily, preflight, and 50-hour inspections.

Part total time-158 hours.

BELL

Bell	Chipped Duplex
Model 206L1	Bearing
Long Ranger II	6220

The swashplate was removed due to binding and roughness when the rotor head was rotated. After disassembly of the swashplate, it was discovered that the duplex bearing was flaking and chipping. The bearing cage was

separated and caused damage to the inner ring of the swashplate.

The submitter stated this was the third bearing in the past 12 months that failed with less than 1,000 hours.

Part total time-547 hours.

ROBINSON

Robinson	Clutch Actuator Fuse
Model R-22	Tripped
Beta II	6340

During a fuel stop while ferrying a new aircraft, the 1.5 amp fuse for the clutch actuator was found "blown."

The pilot replaced the fuse with a 1 amp fuse. During a later fuel stop, the fuse was found "blown" again, and the pilot noted the A190-2 "V-belts" were severely damaged. Further inspection showed that the clutch actuator springs popped weakly when the "V-belts" were tensioned but continued to increase the tension until the fuse blew. The "V-belts" and clutch actuator were replaced, and the flight was completed.

Part total time-21 hours.

SIKORSKY

Sikorsky	Main Rotor Blade
Model S-76A	Leading Edge
Mark II	Missing
	6210

An 8.5-inch section of the main rotor blade nickel leading edge strip (48 inches from the tip cap) was discovered missing.

This area had previously been repaired for a crack in the leading edge, and was repaired per the composite repair manual. The submitter suspected debonding under the strip (as a result of the repair) was the cause of the loss of the leading edge strip.

The submitter recommended that a better procedure be developed for sealing this type of crack in the leading edge abrasion strips.

Part total time-2,487 hours.

**AMATEUR, EXPERIMENTAL, AND
SPORT AIRCRAFT**

BENDIX

Bendix	Magneto Magnet
Model SF4RN-R	Shaft Failed
	7414

The magneto failed during a normal flight. The aircraft was an amateur-built Fly Baby. The magneto (P/N 10-15828Y) shaft failed, breaking into two pieces at the inner Woodruff key slot (at the outer edge of the slot). This failure was inside the magneto; therefore, the gear and outward end of the shaft continued to rotate. The engine continued running until a successful landing was made.

The magneto drive gear tilted partially, grinding aluminum from the accessory case, contaminating the oil, and resulted in an engine overhaul. There was no evidence the shaft sheared due to the magneto “locking up.” The bearings were very rough; however, they were intact. The magneto maintenance history and the total time are unknown. The engine type was a Continental A75.

FALCON XP

The pilot reported the aircraft lost engine power during a landing approach and collided with the terrain.

An investigation disclosed engine fuel starvation was the cause of the accident. The submitter speculated this was caused by nonfunctioning fuel tank vents. The vent

system is designed to vent through the filler caps. The submitter stated the fuel caps lose their vent function when tightened into the fuel tank filler neck. These are “thermos-type” caps which expand as they are tightened. The submitter did not offer a solution for this situation.

Part total time-200 hours.

KITFOX

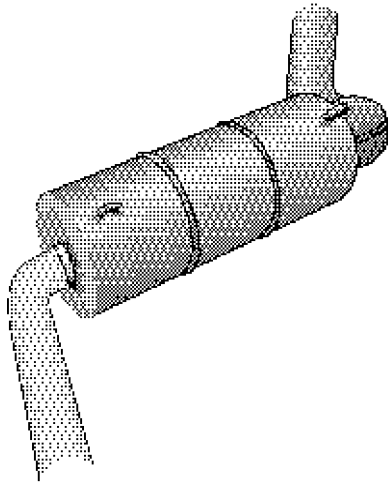
Kitfox	Muffler and Tailpipe
Model II	Separated
	7820

During a routine preflight inspection, the mechanic discovered a loose exhaust pipe.

After removing the cowling, a closer inspection found the exhaust pipe was almost completely separated from the muffler assembly. This pipe exits the muffler at an immediate 90-degree elbow. At this point it is welded to the end of the muffler with approximately an 8-inch tailpipe which protrudes through the lower cowling. The pipe had separated completely around the weld except for approximately .25 inch of weld attachment left holding it to the muffler. (Refer to the following illustration.) The apparent causes were the use of “MIG” welding for attachment and the failure to normalize the welded area. Normalizing should always be done after “MIG” welding because the very localized heating creates a brittleness of the surrounding material. The submitter stated that this muffler was as it was received from the supplier of the kit with no modifications and 110 hours total time.

The submitter also stated: “This part of the preflight should never be ignored because had the pipe completely separated during flight, the result of raw exhaust inside the cowling could have been catastrophic.”

Part total time-110 hours.



PROPELLERS AND POWERPLANTS

TELEDYNE CONTINENTAL

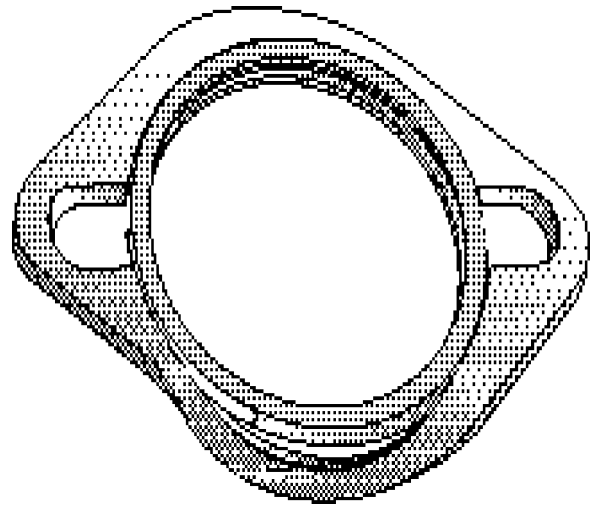
**Teledyne Continental Exhaust Gasket
Model A-65-8 7800**

This submitter stated the engine exhaust gaskets, received from a distributor, did not properly fit this engine. This engine was installed in a Taylorcraft.

The gaskets (P/N 627429) were measured and were .032 inch larger than the original gasket at the outside diameter. The new gaskets were marked "FAA/PMA" and were in unopened packages. The gaskets fit properly when installed on the Number 1 and Number 4 cylinders; however, interference with adjacent cylinders was found when they were installed on the Number 2 and Number 4 cylinders. (Refer to the following illustration.)

If other operators experience this problem, please report these occurrences so that a resolution can be initiated.

Part total time—"0" hours.



TEXTRON LYCOMING

**Textron Lycoming Defective Hardware
Model IO 540 8520**

While assembling an engine during an overhaul, a defective connecting rod bolt nut (P/N AL12186) was found.

After torquing the nut, the bolt was measured for "stretch." The micrometer would not "snug up" smoothly across both edges of the threaded end of the bolt. One edge measured 2.255 inches, and the opposite edge measured 2.259 inches. The bolt and nut were removed, and the nut appeared to "wobble" when it was spun. The threads of the nut had not been cut square with the nut seating surface. This caused the bolt to bend when torque was applied. The submitter checked the remaining stock of 45 nuts and did not find any other anomalies. If not corrected, this condition could have led to a catastrophic engine failure. Even though this was an isolated case, all hardware should be examined prior to installation. Some defects may be obvious while others require a more detailed inspection.

Part total time—"0" hours.

ACCESSORIES

TACHOMETER

During an inspection and general maintenance, the aircraft owner furnished the repair station with a "new" tachometer for installation. The tachometer had been acquired through a well-advertised vendor magazine.

An inspection of the tachometer disclosed the manufacturer's name was not displayed on the unit, and there were no markings on the instrument. Attached to the unit was a single paper document which stated: "Certificate of quality," "this tachometer was Model KIT-10," the serial number, and "This instrument has been tested and inspected according to the Technical Standard HBM55-87 and proved to be Qualified and allowed to be put into use."

The repair station declined the customer's request to install this instrument because it did not appear to be an "Approved Aircraft Part." This sparked a spirited conversation with the owner, which resulted in the old tachometer being reinstalled, and the two parties parting company. Sometimes you just have to stand on your principles!

In this case the repair station was correct in not installing a part which they could not determine to be approved.

AIR NOTES

AIRWORTHINESS DIRECTIVES

At the suggestions of our readers, this article will appear in all future editions of this publication. It is intended to advise our readers of new Airworthiness Directives (AD's) published within the preceding month.

This article is published for information only. The proper technical data should be consulted for applicability and completeness of AD data.

The following AD's include a short subject matter identification. Only AD's pertaining to general aviation aircraft (under 12,500 pounds) will be included in this list.

(The following information is published exactly as it was received.)

Airworthiness Directives published the week of September 5, 1996:

96-18-22 PL Robinson Helicopter R44 gear carrier
 96-18-01 Learjet Model 60 aft core cowl nozzle
 96-18-02 American Champion 8KCAB et al wing front strut attach fittings
 96-15-06 Pratt & Whitney JT8D-200 Turobofan engines fan hubs
 96-17-12 Jetstream Aircraft HP137 Mkl, 200 top cap security bolts
 96-17-13 Raytheon (Beech) BAe 125 1000A model Hawker 1000 correct sleeve lengths
 96-17-14 Airbus Model A300 B2, B4 outer skin of the fuselage

Airworthiness Directives published the week of September 12, 1996:

96-12-25 Bell Helicopter 204B tail rotor blade
 96-12-26 Bell Helicopter AH-1, HH-1K, et al tail rotor blade
 96-18-06 Airbus A320-111, 211, 231 pressurized floor at frame 36
 96-18-11 McDonnell Douglas DC-10-10 bulkhead tee caps
 96-18-15 Bell Helicopter 222, -B, -U, 230 tail rotor blade
 96-18-19 de Havilland DHC-7 fuselage skin panels
 96-18-20 Piaggio P-180 outflow/safety valves
 96-18-21 Pilatus Britten-Norman BN-2A, -MK aileron mass balance clamp
 96-19-07 PL Burkhart Grob G115D installation of placard on airspeed and maneuvers

96-18-03 SAAB SF340A and 340B auto flight idle stop on control quadrant
 96-18-04 Boeing 737-300, -400, -500 escape slide
 96-18-05 Bell Helicopter 206L, -1, -3 tailboom drive shaft
 96-18-07 Bellanca 17-30 et al NLG strut and brackets
 96-18-09 Raytheon (Beech) BAe 125-800A, -1000A, Hawker 800, 1000 TKS metering pump
 96-18-12 Airbus A320 P-clip installation in electrical wiring

Airworthiness Directives published the week of September 19, 1996:

96-18-13 AlliedSignal TFE731 Turbofan engines fan rotor disk
 96-18-14 Hartzell Propeller HC-A3V et al propellers hub replacement
 96-18-18 Airbus A300-600 upper radius of frame 47
 96-19-01 Allison 250 turbine engine filter
 96-19-03 McDonnell Douglas DC-10, MD-11, KC-10A steel hi-lok fasteners
 96-19-04 Fokker F28 Mark 1000 et al dimpled lap joints

Airworthiness Directives published the week of September 26, 1996:

96-19-02 Industrie Aeronautiche Piaggio P-180 passenger seat cushion
 96-19-07 Burkhart Grob G115C et al restricted air speeds
 96-19-16 Fokker F28 Mark 0100 Hi-lok bolt holes
 96-19-17 Boeing 757 main battery shunt
 96-19-18 SOCAT 700 elevators and rudder
 88-09-05 R1 de Havilland DHC-8 markings to lavatory
 96-16-06 Weatherly Aviation 620A and B wing hinge pins
 96-17-11 Pratt & Whitney JT9D-7R4 vane retention bolts and nuts
 96-18-02 American Champion 8KCAB et al wing front strut attach fittings
 96-19-05 Fairchild SA226 & 227 main landing gear yokes
 96-19-06 Jetstream 4101 yaw damper servo in the autopilot

96-19-08 SAAB 2000 de-icing system boots
 96-19-09 McDonnell Douglas DC-9-80 and MD-88 main landing gear pistons
 96-19-10 Boeing 767 main battery shunt
 96-19-12 Fokker F28 Mark 0100 interlock mechanism of large cargo doors
 96-19-13 Gates Learjet Model 35 and 36 limitation on maximum operating speeds
 96-19-14 Fokker F28 Mark 0100 flexible oxygen hoses
 96-19-15 Bombardier CL-600-2B16 spring bungee assembly

ALERTS ON LINE

We have received several requests to make the information contained in AC 43-16, General Aviation Airworthiness Alerts, available electronically. Therefore, this publication is now available through the FedWorld Bulletin Board System (BBS), via the Internet.

You may directly access the FedWorld BBS at telephone number (703) 321-3339. To access this publication through the Internet, use the following address.

<http://www.fedworld.gov/ftp.htm>

This will open the "FedWorld File Transfer Protocol Search And Retrieve Service" screen. Page down to the heading "Federal Aviation Administration" and select "FAA-ASI". The file names will begin with "ALT", followed by three characters for the month, followed by two digits for the year (e.g. "ALTJUN96.TXT"). The extension "TXT" indicates the file is viewable on the screen and also available to download.

Beginning July 1996, we are using the Adobe Acrobat software program format to upload this monthly publication. This change is necessary to include the illustrations which are associated with various articles. The file names will still begin with "ALT", followed by three characters for the month, followed by two digits for the year; however, the extension

will be "PDF" (e.g. "ALTJUL96.PDF"). The extension "PDF" indicates it will be necessary to download the files for viewing. The Adobe Acrobat Viewer is available for download from the Internet (free of charge) and will allow the files to be read.

You may still access the "TXT" extension for issues of this publication prior to July 1996.

Also, available at this address are the Service Difficulty Reports which may be of interest.

The Regulatory Support Division (AFS-600) has established a "HomePage" on the Internet, through which the same information is available. The address for the AFS-600 "HomePage" is:

<http://www.mmac.jccbi.gov/afs/afs600>

Also, this address has a large quantity of other information available. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service information is available. If problems are encountered, you can "E-mail" us at the following address.

Other requests have been received indicating a need to make the staff of this publication more available to our readers. To provide greater and more flexible access for you to offer information and ask questions, you may use any of the following methods to contact us.

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P.O. Box 25082
Oklahoma City, OK 73125-5029

We hope this will allow you to contact us by a means which will be convenient and save some of your time. We welcome the submission of aircraft maintenance information via any form or format. This publication provides an opportunity for you to inform the general aviation community of the problems you have encountered. The Service Difficulty Reporting (SDR) program also brings the problems to the attention of those who are able to resolve the problems. Your participation in the SDR program is vital so accurate maintenance information is available to the general aviation community.

FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT

For your convenience, FAA Form 8010-4, Malfunction or Defect Report, will be printed in every issue of this publication.

You may complete the form, fold, staple, and return it to the address printed on the form. (No postage is required.)

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Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location			
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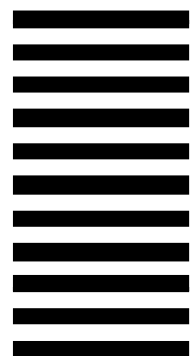


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